

J. Walber,
Artificial Leg.
N^o 49,936. Patented Sep. 12, 1865.

Fig. 1

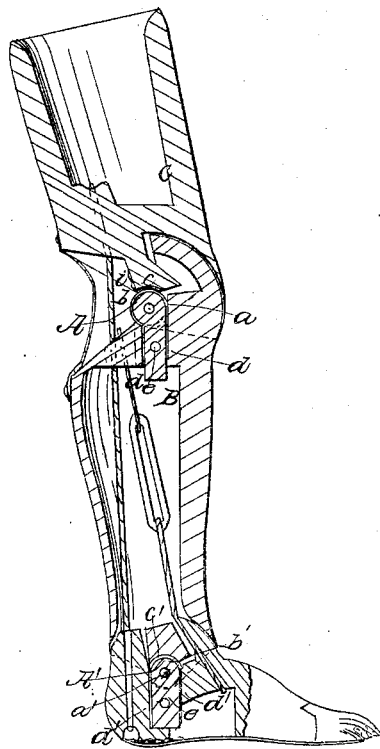
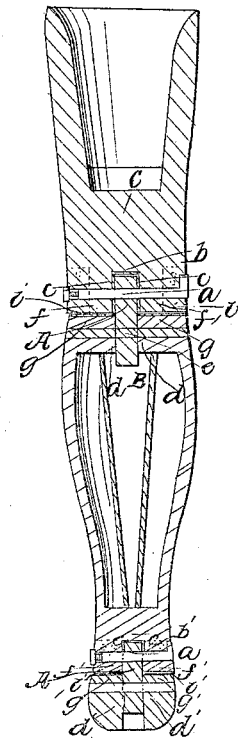


Fig. 2



Witnesses:
Lawrence Holmes Jr
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UNITED STATES PATENT OFFICE.

JAMES WALBER, OF NEW YORK, N. Y.

IMPROVEMENT IN ARTIFICIAL LEGS.

Specification forming part of Letters Patent No. 49,936, dated September 12, 1865.

To all whom it may concern:

Be it known that I, JAMES WALBER, of No. 408 Sixth avenue, in the city, county, and State of New York, have invented a new and useful Improvement in Artificial Legs; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a central vertical section, from back to front, of a leg constructed according to my invention. Fig. 2 is a central transverse section of the same.

Similar letters of reference indicate corresponding parts in both figures.

The object of my invention is to obtain a larger area of supporting-bearing in the joints of artificial legs than has heretofore been obtained; and to this end it consists in providing metal-faced center bearings on the circular surfaces of the tenons of the joints, and metal-faced side bearings on the circular surfaces of the cheeks of the tenons thereof, such bearings receiving the whole weight of the body and almost entirely relieving the pins of the joints of strain, the said pins, instead of forming the supporting-bearings, serving merely to connect the parts of the leg together, and hence not requiring to be so large as in other limbs in which they form the supporting-bearings. By the use of smaller joint-pins the joints are not so much weakened by the holes bored for the reception of the pins.

To enable others skilled in the art to apply my invention to use, I will proceed to describe it with reference to the drawings.

A is the tenon provided on the upper end of the lower part, B, of the leg to form the center bearing of the hinge at the knee. This tenon is made of circular profile concentric with the joint-pin *a*, as shown in Fig. 1, to fit into a mortise, *c*, Fig. 2, having its upper part of corresponding form in the upper part, C, of the leg. The circular surface of the tenon A is faced with a piece of sheet metal, *b*, tinted blue in the drawings, and the corresponding surface of the mortise *c* is faced with leather or hide.

In order to facilitate the application of the metal *b* the tenon A is not made in a piece with the part B of the leg, but made of a separate piece, which is inserted and glued into a mortise, *d*, in the said part B, and secured by a transverse wooden pin, *e*. The strip of sheet

metal *b* is lapped over the tenon A before its insertion into the mortise *c*, and the ends of the strip inserted along the tenon into the said mortise, as shown in Fig. 1.

The side bearings of the knee-joint are formed by rounding the profile of the cheek or bearing pieces *f f*, Fig. 2, left at the sides of the mortise *c* in the upper part, C, of the leg, and making the shoulders *g g*, Fig. 2, formed on the part B on each side of the tenon A of a corresponding concave form.

The bearing-pieces *f f* are faced with metal plate *i i*, Fig. 1, and the corresponding portions of the shoulders *g g* on which they bear are faced with leather or hide.

The weight of the body is distributed over the central and side bearings. The ankle-joint is formed in a precisely similar manner, the rounded tenon A', forming the center bearing, being secured into a mortise, *d'*, cut in the lower end of the part B of the leg, and the side bearings being formed by the cheek-pieces *f' f'* at the sides of the mortise *c'*, and the shoulders *g' g'* on the foot at the sides of the tenon A' relieving the pin *a'* of the weight of the body.

The upper part of the tenon A' is faced with sheet metal *a'*, and the bottoms of the cheek-pieces *f' f'* faced with sheet metal *i' i'*, in the same manner as A, and *f f* are faced with the sheet metal *b* and *i i*.

By this construction of the joint I not only relieve the joint-pins of the weight of the body and transfer it to the mortises and tenons, but obtain bearings with cylindrical faces both above and below the axis of the joint and at the middle of the length, as well as at the sides thereof.

What I claim as my invention, and desire to secure by Letters Patent, is—

The construction of the joints of artificial legs with metal-faced supporting-bearings on the circular surfaces of the central tenon and of the side cheeks of the mortise of the joint, substantially as herein described, whereby the pins of the joints are relieved of the weight of the body and cylindrical-faced bearings are obtained both above and below the axis of the joint.

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Witnesses:

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